Application of South Carolina Electric & Gas Company for Increases and Adjustments in Electric Rate Schedules and Tariffs			) ) BEFORE THE ) PUBLIC SERVICE COMMISSION ) OF SOUTH CAROLINA ) ) COVER SHEET ) ) DOCKET ) NUMBER: 2009 - 489 - E				
(Please type or print	)						
Submitted by:	K. Chad Burgess		SC B	ar Numbe			
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Emergency R  Other:		OCKETING INFO				's Agenda expeditiously	
INDUSTRY (C	heck one)	NAT	URE (	OF ACTIO	N (Check all tha	t apply)	
		Affidavit		Letter			
☐ Electric/Gas		Agreement		Memorandum		Request for Certificatio	
Electric/Telecon	mmunications	Answer		] Motion		Request for Investigation	
☐ Electric/Water		Appellate Review		] Objection		Resale Agreement	
☐ Electric/Water/Telecom.		Application		Petition		Resale Amendment	
Electric/Water/	Sewer	Brief		Petition for	Reconsideration	Reservation Letter	
Gas		Certificate		Petition for	Rulemaking	Response	
Railroad		Comments		Petition for l	Rule to Show Cause	Response to Discovery	
Sewer		Complaint		Petition to	Intervene	Return to Petition	
Telecommunica	ations	Consent Order		Petition to In	ntervene Out of Time	Stipulation	
Transportation		Discovery		Prefiled Te	stimony	Subpoena	
Water		Exhibit		Promotion		☐ Tariff	
☐ Water/Sewer		Expedited Consideration	on [	Proposed C	Order	Other:	
Administrative Matter		Interconnection Agreeme	ent [	Protest			
Other:		Interconnection Amendm	nent [	] Publisher's	Affidavit		
		Late-Filed Exhibit	$\triangleright$	Report			



chad.burgess@scana.com

#### October 21, 2011

#### VIA ELECTRONIC FILING

The Honorable Jocelyn G. Boyd Chief Clerk / Administrator Public Service Commission of South Carolina 101 Executive Center Drive, Suite 100 Columbia, South Carolina 29210

RE: Application of South Carolina Electric & Gas Company for Increases and Adjustments in Electric Rate Schedules and Tariffs;

Docket No. 2009-489-E

Dear Ms. Boyd:

By Order No. 2010-471, dated July 15, 2010, issued in the above-referenced docket, the Public Service Commission of South Carolina ("Commission") approved an adjustment to South Carolina Electric & Gas Company's ("SCE&G" or "Company") retail electric rates and in doing so, ordered the Company to implement a twelve-month pilot weather normalization adjustment ("WNA") for residential and commercial customers receiving electric service under rate schedules 1, 6, 8, and 9. Additionally, the Commission ordered SCE&G, upon the conclusion of the twelve-month pilot period, to file a comprehensive report with the Commission and the South Carolina Office of Regulatory Staff ("ORS") showing the aggregate impact and conclusions for the future of the program.

Enclosed for filing is a copy of SCE&G's comprehensive report. Please note that in the comprehensive report, SCE&G identifies and explains the need to update the WNA as follows.

- 1. Each fall the Company will update the WNA equations using the last four years of billing experience.
- 2. SCE&G will update its regression model from a linear equation to a quadratic formulation in order to prevent future overcredits from occurring.

(Continued . . . )

- 3. SCE&G will update the number of WNA groups currently set at 18 by further dividing the Rate 9 schedule into three groups instead of the current two groups so as to create a nineteenth WNA group.
- 4. Each fall the Company will update its statistical regression analysis of each premise's kilowatt hour consumption and weather.

For the reasons set forth in the comprehensive report, the Company respectfully requests that the Commission approve these minor modifications to the WNA.

The request for relief set forth herein will not involve a change to any of SCE&G's retail rates or prices, or require any change in any Commission rule, regulation or policy. Accordingly, neither notice to the public at-large, nor a hearing is required regarding this request.

By copy of this letter, we are providing the South Carolina Office of Regulatory Staff with a copy of SCE&G's comprehensive report and the Company's request that the WNA be modified.

If you have any questions, please do not hesitate to contact us.

Very truly yours,

K. Chad Burgess

KCB/kms Enclosure

cc: John W. Flitter

Nanette S. Edwards, Esquire Jeffrey M. Nelson, Esquire

(all via electronic and U.S. First Class Mail)

## **eWNA Comprehensive Report**

#### Introduction

In the most recent general rate proceeding in Docket No. 2009-489-E, the South Carolina Office of Regulatory Staff ("ORS"), South Carolina Electric & Gas Company ("SCE&G" or "Company") and several intervening parties requested that the Public Service Commission of South Carolina ("Commission") authorize SCE&G to implement a pilot electric weather normalization adjustment mechanism ("eWNA") for its residential and commercial customers receiving electric service under rate schedules 1, 6, 8, and 9. These rates represent approximately 90% of the weather sensitive sales on the system. The purpose of the eWNA is to offset the impact of abnormal weather on the non-fuel portion of customers' bills.

In Order No. 2010-471 dated July 15, 2010, the Commission approved the eWNA mechanism and required the Company to: 1) explain to its customers how the eWNA works; 2) file monthly status reports with the Commission and ORS; and 3) file a comprehensive report with the Commission and ORS after the conclusion of the 12 month pilot period showing the aggregate impact and conclusions for the future of the program. In Compliance with the Commission's Order, the Company has explained the eWNA process to its customers using bill inserts, the Company's website, and through the training of front line employees. The Company has also filed monthly reports with the Commission and ORS since the program started in August 2010. This document serves as SCE&G's comprehensive report thereby satisfying the third requirement stated above.

## **Program Results**

Since August 2010, the eWNA has reduced customers' bills by \$93,559,097. With about 631,000 customers subject to the eWNA, this represents a savings of \$148.27 per customer or \$10.59 per customer per month since the eWNA's inception. Whether customers' bills decrease or increase because of the eWNA is solely a function of weather. When weather is above normal (colder than normal in the winter or warmer than normal in the summer), the eWNA process lowers the rate charged per kWh, resulting in a decrease in the customer's bill compared to what customers would have been billed without the eWNA. When weather is below normal (warmer than normal in the winter or cooler than normal in the summer), the reverse occurs.

Chart 1 below summarizes the eWNA revenue adjustments impact from August 2010 through September 2011.

# Chart 1:

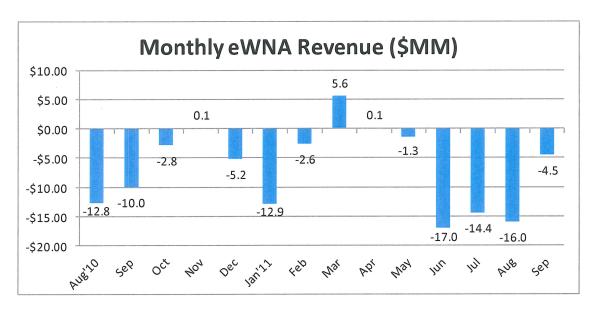


Table 1 below summarizes the eWNA impact by rate schedule. Residential customers are served under rate schedules 1, 6 and 8, while small general service customers are served under rate schedule 9. The eWNA under rate schedule 9 is restricted to commercial customers.

<u>Table 1:</u>

eWNA Revenue Impact				
Rate	eWNA Revenue (\$)			
1	-3,056,461			
6	-4,184,560			
8	-73,786,385			
9	-12,531,691			
Total	-93,559,097			

As discussed above, the impact of the eWNA on customers' bills depends upon the relationship of actual weather to normal weather. To determine the deviation from normal weather, the actual amount of heating degree days ("HDDs") and cooling degree days ("CDDs") were calculated and compared to the average HDDs and CDDs. This variation was then used to calculate an eWNA adjustment.

Chart 2 below compares actual HDDs to normal HDDs over the fourteen months of eWNA experience. Actual HDDs were significantly above normal during the months of December and January, indicating much colder than normal weather resulting in eWNA adjustments that reduced customers' bills compared to what would have been billed without the eWNA.

## Chart 2:

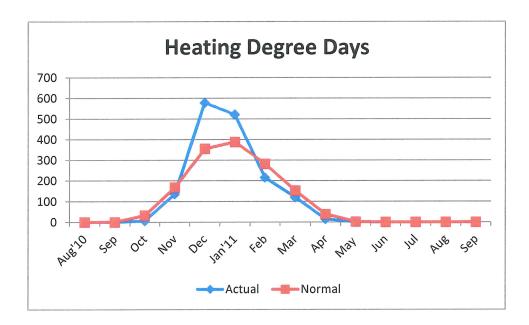
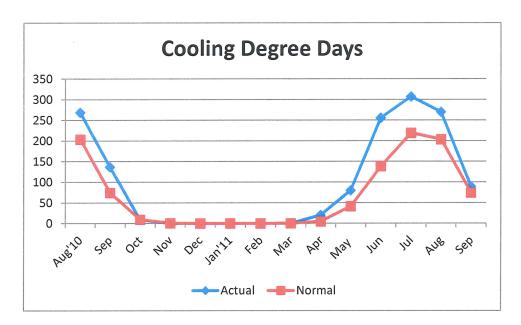


Chart 3 illustrates actual and normal CDDs over the fourteen months of eWNA experience. It shows that both the 2010 and 2011 summers experienced actual CDDs significantly above normal, reflecting much hotter than normal summers and, in turn, eWNA reductions in customers' bills.

## Chart 3:



The Company was confident that the mechanics of the eWNA would function as intended, but also knew that it was critical to explain the program in order to educate its customers. Since the eWNA program is designed to help insulate customers from weather-related volatility in electric costs, the Company was sure that if the program was explained well enough, customers would embrace the eWNA.

Table 2 below shows the number of customer calls to the Company regarding concerns with the eWNA during the 2010 summer when the program initially launched. During the first three months of the program, SCE&G received only 262 calls from its roughly 631,000 participating customers. Based on the minimal number of calls received by the Company, it was confirmed that the customer education program was successful and customers were accepting of the eWNA.

Table 2:

2010 Summer - Customer Calls About eWNA					
Communication Type	Aug	Sept	Oct	Total	
Explanation of eWNA	108	43	11	162	
Request to Opt Out	24	4	0	28	
Calculation of eWNA	9	0	0	9	
General Complaint	46	10	7	63	
Monthly Total	187	57	18	262	

Table 3 summarizes the number of customer calls to the Company regarding concerns with the eWNA for the 2010-2011 winter period. The reduction in the number of calls to the Company provides further evidence supporting the success of SCE&G's customer education program.

Table 3:

2010-2011 Winter - Customer Calls About eWNA							
Communication Type	Nov	Dec	Jan	Feb	Mar	April	Total
Explanation of eWNA	10	8	20	11	30	16	95
Request to Opt Out	1	0	0	0	7	1	9
Calculation of eWNA	1	1	1	2	3	0	8
General Complaint	4	2	1	0	6	4	17
Monthly Total	16	11	22	13	46	21	129

Table 4 summarizes the number of customer calls to the Company regarding concerns with the eWNA for the 2011 summer period. SCE&G believes that the low call volume in the 2010-2011 winter and 2011 summer further confirms the success of the Company's education efforts as well as the customers' acceptance of the program.

Table 4:

2011 Summer - Customer Calls About eWNA					
Communication Type	July	Aug	Sept	Total	
Explanation of eWNA	8	6	3	17	
Request to Opt Out	0	0	0	0	
Calculation of eWNA	0	0	0	0	
General Complaint	0	1	1	2	
Monthly Total	8	7	4	19	

Since implementation of the eWNA mechanism in August 2010, SCE&G has only received 410 calls concerning the eWNA.

# Experience gained during the operation of the eWNA mechanism

The Company has experienced back-to-back summers of extremely hot weather. The extremely hot summers of 2010 and 2011 have demonstrated that our customers' kWh consumption as a function of hot weather increases with increasing CDD, but this consumption begins to level off after CDDs exceed a certain level. For example, once a certain temperature level is reached, many air conditioners run continuously without cycling, thus reaching a saturation point. This saturation point results in a leveling off of the customer's consumption that is driven by weather. This saturation point is recognized when using a quadratic equation to determine the customer's estimated usage. However, the Company has been using a linear equation to determine usage, which does not recognize a saturation point.

Chart 4 shows how the linear eWNA equation used by the Company differs from a quadratic eWNA equation, which is more reflective of the customer's weather sensitivity.

## Chart 4:

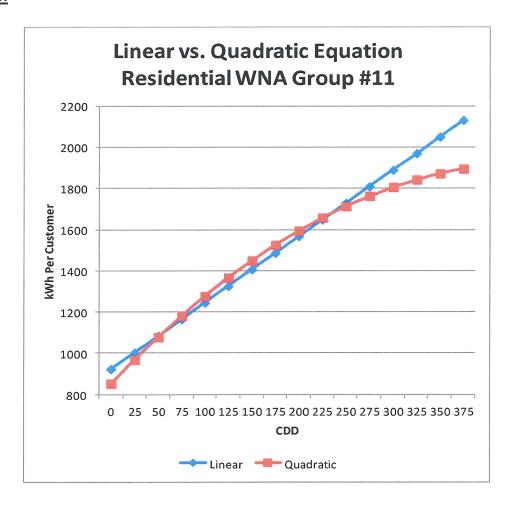


Chart 4 above demonstrates that throughout most of the range in CDD values, the two equations produce almost exactly the same estimate in customer kWh usage. It is only at the low end (near zero CDDs) and the high end (above 300 CDDs) that there is a difference. The low end is not a concern because it occurs in swing months, and deviations from normal have very small effects on the eWNA calculation. However, at the upper range in CDD values, which the Company experienced in the 2010 and 2011 summer periods, the over-estimate in customer usage indicated with use of a linear equation significantly impacts the eWNA calculation. This indicates that a quadratic equation should be used to capture the weather effects at extremely high levels of CDDs. To correct this, the Company will substitute a quadratic formulation for future summer periods.

As a result of the Company's linear statistical modeling of customer usage for the eWNA (rather than quadratic modeling), a billing error occurred and resulted in an over-credit being applied to customers, primarily in the months of July, August, and September of 2011. This over-credit of residential and small commercial customers' bills will require an eWNA billing adjustment going forward, and as noted above, the eWNA regression model will be changed to a quadratic formulation in summer months to prevent this from happening in the future. The billing error adjustment is \$13,989,314, which amounts to roughly 1.5% of the total dollars subject to the eWNA. In compliance with 26 S.C. Code Ann. Reg. 103-340 (1976, as amended), this billing error adjustment will occur over future billing periods until the over-credit is eliminated and will be accomplished through the monthly billing process.

## **Summary and Conclusions**

The primary conclusions are:

- 1. The Company's education efforts have been successful in helping customers understand how the eWNA program works.
- 2. The eWNA program has been accepted by customers and has shown to be beneficial in that it has reduced the impact of abnormal weather on customers' bills by \$93,559,097. The \$13.9 million billing error adjustment will occur over future billing periods through the monthly billing process. With this adjustment, the net benefit to customers' bills has been \$79,569,783.

The next steps include the following:

- 1. Each fall the Company will update the eWNA equations using the last four years of billing experience. This will keep the estimated sales response based on weather up to date. As discussed above, the need for use of a quadratic formula for the summer response was identified and will be implemented as part of this fall's equation update.
- 2. Normal weather has been defined as a 15 year average. When the eWNA program began, the Company used the 15 year period ended December 2009. This weather dataset was updated in August, to include the 15 years ended July 2011. Going forward, the Company will update the normal weather data every spring. This will coincide with the Company's annual forecasting and budgeting cycle.

- 3. Each premise that is served under a rate schedule subject to the eWNA program has been identified as being either more sensitive or less sensitive to winter weather. This classification was made through a statistical regression analysis of each premise's kWh consumption and weather. If there was a statistically significant correlation between consumption and HDD, the premise was classified as more sensitive to winter weather. This analysis will be updated each fall and all premises will be classified appropriately.
- 4. Currently, there are 18 eWNA groups spread among the four rate schedules, further subdivided according to weather sensitivity, as shown in the Appendix. Going forward, there will be 19 eWNA groups. The 19<sup>th</sup> group will be commercial customers under Rate 9 who are subject to the summer demand provisions. This group will be segregated and have their eWNA estimated separately from the non-demand customers.
- 5. The Company will continue updating the Commission and the ORS on the status of this pilot program with monthly status reports.

## **APPENDIX**

# eWNA Customer Groups August 2010 through September 2011

WNA		
Group	Rate	Description
1	1	Single Family - Less Sensitive to Cold
2		- More Sensitive to Cold
3		Multi-Family - Less Sensitive to Cold
4		- More Sensitive to Cold
5	6	Single Family - Less Sensitive to Cold
6		- More Sensitive to Cold
7		Multi-Family - Less Sensitive to Cold
8		- More Sensitive to Cold
9		Mobile Homes - Less Sensitive to Cold
10		- More Sensitive to Cold
11	8	Single Family - Less Sensitive to Cold
12		- More Sensitive to Cold
13		Multi-Family - Less Sensitive to Cold
14		- More Sensitive to Cold
15		Mobile Homes - Less Sensitive to Cold
16		- More Sensitive to Cold
17	9	Commercial - Less Sensitive to Cold
18		- More Sensitive to Cold